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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
EDMONDSON, LYNNE RENEE

ART UNIT	PAPER NUMBER
1725	10

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/913,014	Applicant(s) FAN ET AL.	
	Examiner Lynne Edmondson	Art Unit 1725	

-- Th MAILING DATE of this communication appears on the cov r sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/12/03* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,9,13,14 and 16-24* is/are rejected.

7)☐ Claim(s) *6,10-12 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). 10 .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7, 9, 13, 14 and 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramsay et al. (USPN 3800893).

Ramsay teaches a method and apparatus for detecting the oscillation (vibration) amplitude of an oscillating object comprising an optical radiation source (320), a detector comprising first and second optical (light) radiation sensors (322,324) adjacent each other and both receiving radiation from the source wherein the source and detectors are located on opposite sides of the oscillating object, so that when the object is located between them it blocks a portion of the radiation directed toward the detector (figure 7, col 9 lines 1-20 and col 13 line 62 – col 14 line 12), a processor (computer) coupled to the detector to receive first and second output signals wherein the processor processes the signals to obtain an indication of the amplitude of oscillation of the object (col 1 line 60 – col 2 line 9, col 11 lines 1-63 and col 17 lines 15-43) with control by comparing the oscillation amplitude to a reference value in real time (col 4 line 50 – col

5 line 25, col 6 line 57 – col 7 line 7 and col 7 lines 23-37). The sensing areas are directed toward the optical source and adjacent each other and sensors receive radiation directly from the source (figure 7). See also Ramsay claims 1-12, 14-19 and 22-24.

3. Claims 1-5, 7, 9, 13, 14 and 16-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Walters (USPN 6279248 B1).

Walters teaches a method and apparatus for detecting the oscillation (vibration) amplitude of an oscillating object (col 2 lines 45-63 and col 3 lines 1-22) comprising an optical radiation source (410, col 6 lines 42-56), a detector comprising first and second optical (visible light) radiation sensors (422, 424) adjacent each other and both receiving radiation from the source wherein the source and detectors are located on opposite sides of the oscillating object, so that when the object is located between them it blocks a portion of the radiation directed toward the detector (figure 4 and col 7 lines 9-30), a processor coupled to the detector to receive first and second output signals wherein the processor processes the signals to obtain an indication of the amplitude of oscillation of the object (col 4 lines 35-52 and col 7 lines 31-59) with control by comparing the oscillation amplitude to a reference (threshold) value (col 11 lines 18-60 and col 13 lines 31-42) in real time (col 1 lines 60-66 and figure 9). The sensing areas are directed toward the optical source and adjacent each other and sensors receive radiation directly from the source (figure 4). See also Walters claims 1-4.

R sponse to Arguments

4. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

5. Claims 6, 10-12 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art teaches amplitude measurements using opposed radiation sources and detectors however there is no disclosure of the width of the sensing area, particularly relative to the sum of the half width of the oscillating object. See Ramsay (USPN 3800893). Neither does the prior art teach such a device for measuring and controlling ultrasonic waves, particularly those generated by ultrasonic welders and wire bonders. Conventionally vibration of such devices is measured by reflected light suggesting a configuration wherein the light source and detector are on the same side of the object being measured. See Walker et al. (USPN 5734108), Maruyama et al. (USPN 6323943) and Kotidis et al. (USPN 5623307).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. O'Meara et al. (USPN 6285514, opposite detector and source, detectors receive light indirectly), Felber (USPN 5199630, opposite, position sensors not radiation), Kajiwara et al. (USPN 5431324, wire bonder, optical detector), Vikhagen (WO 01/73373 A1, vibrating object between source and sensors), Monroe (USPN 6392692 B1, vibrating object between source and sensors), von Raben (USPN 4854494), Siu (USPN 6181431 B1) and Kajiwara et al. (USPN 54313254).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-7115 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Lynne Edmondson
Examiner
Art Unit 1725

7/17/03

LRE
July 17, 2003